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ABSTRACT

An increasing number of community colleges are exploring the use of telecommunications and other emerging technologies as instructional media. Distance learning has emerged as the educational modality that combines the need for quality educational programs with the demand by students for flexibility and access. The Florida community colleges have kept pace with the national distance learning trends. This study focused on 3 Florida community colleges offering interactive telecommunications (ITV) courses during summer 1998. The purpose of this pilot project was to examine the effect of distance learning on community college student satisfaction with courses and instructors. The study compared on-site and remote-site student ratings of instructors in ITV courses by using the Telecourse Evaluation Questionnaire (TEQ), an instrument developed to assess student satisfaction with a variety of specific demonstrations of ITV. The paper stresses that instructor rating correlates highly with course satisfaction, indicating that for students the two variables are interdependent. The study found that on-site students rated the instructor slightly higher (0.19) than did the remote-site students. On-site students also rated their course experience higher. Further analysis indicated a high correlation coefficient (r=0.798) between course satisfaction and satisfaction with the instructor. (Contains 15 references.) (NB)

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An Analysis of Student Satisfaction with Interactive Televised Courses and ITV Faculty

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An Analysis of Student Satisfaction with Interactive Televised Courses and ITV Faculty

An increasing number of community colleges are exploring the use of telecommunications and other emerging technologies as instructional media. The purpose of this study was to examine the effect of distance learning, specifically interactive televised courses, on community college student satisfaction with courses and instructors. Using the Telecourse Evaluation Questionnaire (TEQ) the study compared on-site and remote-site student ratings of instructors. Findings indicate that: instructor ratings correlate highly with course satisfaction, remote-site students rate instructors lower than on-site students, and course management issues, which may be out of faculty control, can influence remote-site student ratings.

An Analysis of Student Satisfaction with Interactive Televised Courses and ITV Faculty

Student evaluations of faculty have been a source of debate within the higher education community for some time. Concerns include the pressure instructors experience to raise overall class grades to "guarantee" positive evaluations, the purpose of student evaluations, and the correlation between positive student evaluation and student learning. The purpose of this pilot project was to examine the effect of distance learning on community college student satisfaction with their courses and instructors. The study compared on-site student and remote-site student ratings of instructors in interactive telecommunications (ITV) courses by using the Telecourse Evaluation Questionnaire (TEQ), an instrument developed to assess student satisfaction with a variety of specific dimensions of ITV.

An increasing number of community colleges are exploring the use of telecommunications and other emerging technologies as instructional media. Community colleges have operated with the belief that as society changes, the colleges must adapt to meet the new needs of a changing society. As a result, community colleges continuously strive to create programs that will serve new clients as those clients prepare for career opportunities in new and emerging fields.

In keeping with this philosophy, distance learning has surfaced as the educational modality that merges the need for quality educational programs with the demand of today's students for flexibility and access (Lever-Duffy & Lemke, 1996). Distance learning in the community college has opened the doors to new students who previously did not have adequate access, including disabled, working, and geographically remote

students. It has provided new ways for students and faculty to interact and has required students to use technological equipment that can translate into additional employment skills. As Van Dusen (1997) noted, "The community college is a particularly fertile setting in which to explore and develop the capabilities of information technology for educational purposes" (p. 19). Distance learning appears to unite the values and traditions of the American community college with the current wave of American technological advancement.

The Florida community colleges have kept pace with the national distance learning trends. Florida's community colleges have been involved with distance learning since the 1970s through correspondence courses, educational television courses. They have increasingly made use of the recent technological advances such as interactive teleclasses and Internet courses. The State of Florida's interest in distance learning is evident in the formation of the Florida Community College Distance Learning Consortium, the Florida Virtual Campus, and other state supported entities designed to encourage and guide the use of distance technologies for educational use (State Board of Community Colleges, 1999).

As technology advances, more and more courses are being offered to students at locations away from the campus. Distance education allows community colleges to extend the reach of their courses to a wider service area and to provide more programs to remote sites. Because the widespread use of interactive distance technology is fairly new, the effects of distance learning on instruction are still being explored. However the literature on faculty attitudes toward distance education (Boettcher & Conrad, 1999; Clark, 1993; Taylor & White, 1991) indicates that many faculty are skeptical of distance

education and are resistant to involvement with it. Many of the faculty concerns center on teaching effectiveness and the interpersonal dimensions of instruction in distance education, critical issues in community colleges.

Distance learning technology reconfigures the instructor-student interpersonal interactions. Several researchers have found that the amount of interpersonal contact between students and instructors and the accessibility of instructors has an impact on student evaluations of faculty (Kerwin, 1989; Neumann & Finaly-Neumann, 1989). A major study at one Midwestern university made a systematic investigation comparing student evaluation of instructors in traditional and telecommunications settings (Dean, Biner, & Summers, 1996). The researchers found that on each of the factors measured in the study traditionally taught university students gave their instructors significantly higher overall ratings than telecommunication students. Student evaluations of distance learning in the community college environment also warrants examination.

Methodology

Florida community colleges offering ITV courses during Summer, 1998 were the focus of this pilot study. Three colleges participated in the study. Contacts established at each college distributed the study instrument, the Telecourse Evaluation Questionnaire (TEQ). One hundred forty usable student responses were received.

Instrument. The Telecourse Evaluation Questionnaire (TEQ) was designed by Biner (1993) "to offer telecourse researchers a practical, yet psychometrically sound, method of constructing an attitudinal assessment instrument that would accommodate their institutional information needs" (p.63). The TEQ assesses student satisfaction with a variety of teleclass dimensions, including instructor/instruction, course management, and

out-of-class communication with the instructor. Cronbach's alpha for each of the dimensions in the TEQ ranged from very high (.94) to moderate (.51) (Biner, Dean, & Mellinger, 1994).

Analysis

Analysis for this study focused on the instructor/instruction section of the Telecourse Evaluation Questionnaire (TEQ), i.e., Items 1-16 and the student overall evaluation of the course (Item 35) (See Appendix.). Two-sample *t*-tests were conducted on the mean scores between the two groups for each of 15 items. The remote-site students rated higher than the on-site students did for all of the 15 items (See Table 1). Among the 15 items, the remote-site students rated significantly higher ($\alpha = 0.05$) than the on-site students on items 1, 5, 6, and 11. Item 1 was a question about the clarity of class assignment. Item 5 was about timeliness of graded assignments. Item 6 was about the usefulness of different instructional techniques, such as lectures, demonstrations, and group discussions. Item 11 asked students to rate the instructor's general level of enthusiasm. The reliability analysis revealed that the 15 items had slightly lower internal consistency for the on-site students. Cronbach's α was 0.877 for the on-site students, while $\alpha = 0.936$ for the remote site students. This indicates that the items were correlated higher for the remote-site students. In other words, the items were more homogeneous for the remote-site students.

Item-total correlation coefficients were also obtained separately for the two groups. As a result, three items were identified as having relatively low correlation coefficients (Items 5, 7, and 13) for the on-site students. While only one item (Item 7) had low correlation for the remote-site students (See Table 2). Item 5 had the item-total correlation of 0.12 for the on-site students. This is the question that asks about the

timeliness with which papers, test, and assignments were graded and returned. The low item-total correlation indicates that for on-site students timeliness was not measuring the same construct that the majority of items measured. On the other hand, Item 5 had the item-total correlation of 0.53 for the remote-site students. Although the correlation coefficient value itself is not low, it was the second to the lowest among the 15 items for the remote-site students. This indicated that timeliness was more related to the majority of items for the on-site students than the remote site students, although a relatively low correlation for both groups.

Item 7 was a question about the condition of the classroom, specifically asking about possible distractions such as noise from adjacent rooms. The item-total correlation for the on-site students was 0.36, and 0.20 for the remote-site students. This was the only item that had lower item-total correlation for remote-site students than on-site students. The lower correlation indicates that the condition of the classroom was less related to the majority of items for remote-site students than on-site students.

In Item 13 students were asked about the extent to which the instructor encouraged class participation. The item-total correlation for the on-site students was 0.41, while it was 0.66 for the remote-site students. These figures indicate that the class participation is a less related to the majority of the items for the on-site students than the remote-site students in this sample.

Analyses of the internal consistency and the item-total correlations suggest that the 15 items may have revealed different constructs between the on-site and remote-site students, a possibility that was investigated through a factor analysis for each of the two groups. When a two-factor model was employed with varimax rotation, the factor

loadings were somewhat different between the two groups (see Table 3). For the remote-site students, the distinction between the two factors was clear.

Three items, 2, 5, and 7, showed higher loadings on the second factor after Varimax rotation. Among the three items, Items 5 and 7 had distinctly higher loading on the second factor. These were the items with lower item-total correlations. For the remote-site students, the first factor can be interpreted to be the quality of the instructor, while the second factor can be interpreted to be the non-instructor factor.

On the other hand, the distinction between the first and second factors was less distinct for on-site students. Factor loadings were very similar between the two factors for some items, e.g., Items 1, 2, 9, and 10. Among the items that had distinct differences between the two factors, Items 3 and 4 had higher loading on the second factor, while these two items had higher loadings on the first factor for the remote-site students.

Using the same interpretations of the two factors as for the remote-site students, quality and usefulness of the pre-prepared graphics, Items 3 and 4, were considered to be a non-instructor factor for on-site students, while they *were* considered to be a part of instructor quality by the remote-site students. Four other items, 9, 10, 12, and 14, were identified as having higher loading on the second factor, although the differences were not as distinct as the other four items.

In summary, both timeliness of returned tests and assignments, Item 5, and the condition of classroom, Item 7, were seen as non-instructor factors by both on-site and remote-site students. On the other hand, quality of the pre-prepared graphics, Items 3 and 4, were also identified as non-instructor factors only by on-site students. Overall, the remote-site students showed a strong tendency to regard most of the questions as related

to the instructor's quality, whereas the on-site students tended toward more discrimination between instructor and non-instructor factors. Therefore, it can be interpreted that a wider variety of factors influence the perceptions of remote-site students as they evaluate their distance learning instructors.

In an analysis of responses to Item 16, which asked students to provide an overall rating for the instructor, on-site students rated the instructor slightly higher (0.19) than remote-site students. Students were also asked to provide an overall rating for the course (Item 35). An analysis of the responses (see Tables 4 & 5) indicated a significant difference ($\alpha = 0.10$) between on-site and remote-site students in their response to this question. Overall, on-site students rated their course experience higher. Further analysis indicated a very high correlation coefficient ($r = 0.798$) between course satisfaction and satisfaction with the instructor.

Discussion

While a pilot study does not present strong predictive power or generalizable findings, this study did find a difference between community college on-site and remote-site student ratings of course satisfaction and perceptions of ITV instructors. This finding parallels other studies of ITV student-instructor relationships in four year universities, e.g. Biner, Dean, & Mellinger, (1994); Silvernail, & Johnson, (1992); and Summers, et al., (1996).

As might be expected instructor rating correlates highly with course satisfaction indicating that for students these two variables are quite interdependent. For ITV instructors, there is also an indication that course management issues (such as the quality of televised visuals such as tables, pictures, etc.) which may be out of their control, can

influence remote student ratings not only of the course, but of the instructor. Because the findings in this study indicate that remote-site students rate the instructor lower than on-site students, concerns expressed by faculty about the changes in student-faculty relationships introduced by distance learning technology (Clark, 1993; Taylor & White, 1991; Wolcott, 1995) seem to have merit.

Differences in student perceptions of instructional quality are especially noteworthy for community colleges. Quality instruction is considered a hallmark of community colleges. Teaching is and has been a primary mission of the community college. It was through teaching that the community college became popular as an avenue of access to higher education for non-traditional and special needs students.

Distance education in the American community college is clearly a way to provide access to more students, to offer innovative learning experiences, and to enhance students' technological skills. As with any new methodology, old issues must be addressed in light of the new advancements. According to Cohen and Brawer (1996) many community college students are under-prepared and from lower socio-economic backgrounds. The community college has a long tradition of providing excellent instruction and the "personal touch" often missing in the large, four-year institution. As community colleges incorporate ITV and other distance learning formats into the curriculum, faculty and administrators will need to assess the effect of these technologies on the students' perception of the instructional experience.

Faculty should also be aware of the possible effects of distance learning modalities on their relationship with students and in student evaluations of faculty. With teaching as a primary mission, student evaluations often weigh heavily in community college faculty

personnel decisions. Students at sites remote from the instructor were found to rate the instructor less favorably than did on-site students. If distance learning negatively affects students' perceptions and evaluations of community college faculty, new teaching or delivery methods will need to be introduced to compensate for this influence. Otherwise, innovative faculty who are drawn to the possibilities of distance learning may discover that their professional standing suffers as a result of their involvement in distance learning.

Institutions embarking on new distance learning efforts such as ITV and Internet courses should carefully evaluate the student experience in these settings to ensure that both students and faculty are being well-served by the technology. Efforts can be made to provide avenues to support and facilitate student-faculty interaction. In this way community colleges can continue their long-standing tradition of providing opportunities for local students to develop to their fullest potential, while expanding the access to high quality community college instruction to a wider market.

Table 1. Means and Standard Deviations of Rating Scores

Item	On Site	Remote Site
1*	4.58 (.70)	4.26 (.78)
2	3.98 (.90)	3.72 (1.04)
3	3.92 (.89)	3.84 (1.02)
4	4.02 (.97)	3.92 (1.00)
5*	4.19 (1.03)	3.73 (1.12)
6*	4.31 (.68)	4.00 (.98)
7	4.23 (1.02)	4.08 (1.12)
8	4.37 (.75)	4.22 (.89)
9	4.33 (.89)	4.27 (.81)
10	4.37 (.83)	4.31 (.86)
11*	4.59 (.69)	4.32 (.81)
12	4.47 (.82)	4.32 (.85)
13	4.38 (.80)	4.08 (.90)
14	4.20 (.90)	3.96 (1.03)
15	4.56 (.63)	4.35 (.77)

* Items with the significant difference between the two groups at the $\alpha = 0.05$ level.
Note: The values in the parenthesis are standard deviations.

Table 2. Item-Total Correlation Coefficients

Item	On Site	Remote Site
1	.60	.74
2	.56	.71
3	.68	.74
4	.61	.77
5	.12	.53
6	.65	.75
7	.36	.20
8	.54	.60
9	.69	.85
10	.80	.85
11	.52	.75
12	.63	.81
13	.41	.66
14	.51	.79
15	.57	.73

Table 3. Factor Loadings for the Two-Factor Model after varimax rotation

a. On-Site Students

Item	Factor 1	Factor 2
1	.49	.45
2	.59	.32
3	.27	.75
4	.23	.76
5	- .13	.35
6	.82	.19
7	.06	.55
8	.70	.17
9	.46	.64
10	.51	.68
11	.69	.18
12	.33	.68
13	.67	.02
14	.24	.57
15	.76	.17

b. Remote-Site Students

Item	Factor 1	Factor 2
1	.74	.28
2	.53	.63
3	.70	.37
4	.67	.47
5	.30	.72
6	.72	.32
7	- .12	.83
8	.62	.21
9	.95	.08
10	.88	.21
11	.90	- .04
12	.88	.13
13	.73	.12
14	.71	.42
15	.78	.18

Table 4. Crosstabulation: location x instructor effectiveness (Item 16)

	3	4	5	Total
On-site	5	13	31	49
Remote site	16	22	41	79
Total	21	35	72	

Table 5. Mean rating scores on instructor effectiveness (Item 16)

	Mean	SD	N
On-site	4.53	.68	49
Remote site	4.32	.79	79

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